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Editorial.

WE can not endorse some rather popular notions in reference to teaching in graded schools. We do not believe the matter taught to be subordinate to the manner in which it in either taught or learned. Manner is transient and ephemeral. It is the creature of moods, of circumstances, of associations. The country boy, no matter how unfashionable his clothing, how modest his demeanor, or how awkward his movements, if he has been taught substantial matter, will soon acquire all the manner requisite to secure success. Not that an exemplary deportment is not desirable, but that any considerable sacrifice of scholarship for its sake is utterly unwise.

We have a great distrust of "lightning" processes. The attempt to accomplish thorough and extensive work in arithmetic for instance, by such process, is apt in the case of the average teacher, to be attended with too many cases of failure. Any approach to universal success requires careful repetition, and often slow, sympathetic, individual work. It is said that children must creep before they walk, and any pedagogical process or recommendation that fails to contemplate and provide for the creeping stage in each topic, if not in each grade, needs reconsideration and amendment. The "lightning" work is well enough in its place, and ability to perform it may be acquired and profitably cultivated after the slower and more essential preliminary work is done. But the teacher who, through fondness for "lightning" work, discourages or goes beyond the capacity of any considerable number of pupils, assumes and become properly chargeable with a very grave responsibility.

We are disposed to look with disfavor on all efforts to discourage the proper examination of pupils for promotion from grade to grade. As a matter of justice and policy, no pupil should pass from one grade to another without a fair, honest, and intelligent individual examination. Not that pupils should be retained on work already mastered until the arrival of a stated time for examination; but there should be in every school an examining authority, whose business and duty should be to provide for such examinations whenever needed. This is, or should be, the chief work of the principal of every graded school of seven or eight hundred pupils. We believe there is no expedient by which more permanent good can be done to the schools than by the exaltation of this function in the principal or other examining authority. W.

A pleasant half-hour was occupied by Assistant Superintendent Doty, Chicago, at the last institute in a didactic address to the teachers upon the aim and spirit of their work. The following is an imperfect summary: Life is a struggle. This struggle is more intense in cities than in the country. The tendency of the day is toward condensation of population in cities. This is shown by statistics. The rapid and intense activity of modern city life imposes the necessity on city men of doing two days' work in one, so to speak. This imposes, notwithstanding her numerous limitations, peculiar and grave duties and responsibilities upon the teacher. The tendency is to give too much attention to the matter taught, and not enough to the manner. Examinations, and especially the habit of regarding them as ends instead of means, had some bad effects. Useful lessons could be learned by an examination and study of the principles, practices, and modes of motion, which prevail and are required in large and well-ordered mercantile and manufacturing institutions. The promptness, obedience, and celerity of their employes are noticeable and suggestive. The complicated methods and slow processes of the past will not answer for the present, and will place pupils subjected to them at a great disadvantage in a future which is to be characterized by an exaggeration of all the peculiarities which distinguish the present from the past. Teachers contemplating the methods, the traditions, and the accomplishments of the past, should recognize their insufficiency for the present, and should strive earnestly to realize the importance of educating for NOW. There was no danger of over-education. Editorial, gubernatorial, and other fears and solicitude, as expressed in many recent deliverances, lest the great army of dunces, dolts, and incompetents should become extinct through the operation of the schools, were not so well founded as to occasion any serious alarm. The national necessities must be provided for in the schools. Mere individual or class necessities or absence of necessities cannot govern, and must be ignored.

Mr. Doty spoke briefly in reference to matters of instruction, referring more particularly to the subject of composition. He urged under this head the importance of doing something, no matter how little, every day. The only way to secure a mastery of language was to use it. Reproduction of the substance of matter read, on the day following the reading, was recommended for the lower grades, and the assignment of subjects for study, investigation, and reports for the upper. Frequent and judicious discussion of these reports thus prepared would unconsciously betray pupils into the habit of public speaking. By cultivating and requiring promptness in these and all other exercises, valuable moral instruction would be conveyed, and pupils come under a very effective moral influence. Mr. Doty closed by urging upon teachers that "what the pupil grows to *be* is of more consequence than what he lives to *know*." W.

It is an encouraging feature of modern education that there is less conformity to the old text-book style of instruction, and more of the real object teaching in the schools; that although the board of education may specify just the text-books, and exactly the pages of the text-books which are to be studied each term, yet the live teacher weaves into his daily instruction many useful lessons on the thousand of subjects, or objects, which are afforded by nature and society. It is not enough that a child is taught how to call the letters of the alphabet—to read, write, and cipher. These are desirable and necessary qualifications for entrance upon a successful career in life. But after these comes a knowledge of the things about us, if we would not stumble through this world like a blind man. The study of natural history, of physics, or natural philosophy—indeed, the general study of all material things is one of the most essential of all studies for the boy or girl who seeks to enter into mature life well informed and prepared to make a wise use of the material which nature has furnished for his happiness and accommodation. At the same time, therefore, that he is prosecuting the study of mathematics and language, and perhaps even in advance of these, he should be gaining information respecting the material things—the things which he must handle, and the beings which move about him in the world, and which claim, each for himself, individual rights and privileges. W.

At a meeting of the Chicago Board of Education held on the evening of April 26th a resolution was passed in favor of suspending the normal department of the High School for the present. The action is sought to be justified on the ground that there is at the present time, and for more than a year past has been, an excess of applicants for positions in the schools. Since the commencement of the reign of "Hard Times," the number of resignations has been comparatively few, while the number of young ladies anxious to do something in the way of helping the folks at home by preparing themselves to teach at the Normal School has been unprecedentedly large. As a consequence, there are now waiting for situations as teachers, sixty-five normal graduates. A class of ninety-three will be graduated in June, and there will be therefore 158 more teachers than places at the opening of school in September next. The suspension is understood to have been recommended by the Superintendent of Schools, who expects a reorganization on a better basis as soon as the need becomes apparent. W.

In view of the many attacks made upon the publishing fraternity recently, it has come to be an open question whether or not publishers or booksellers have any rights which the rest of mankind are bound to respect. We apprehend, notwithstanding all the assaults, direct or by innunendo, which have been made on these classes, that a strict and impartial investigation of all the facts will show that no publisher or bookseller has grown suddenly or inordinately wealthy, and that publishing houses, taking into account the amount of capital invested, do not make as great profits as houses or firms in other business. The assumption that school-book publishers are a set of shoddy upstarts going about the country puffed up with suddenly acquired and ill-gotten gains, with which they seek to corrupt legislators and school officers is entirely gratuitous and utterly slanderous. Fair play is a jewel! W.

The Wisconsin Superintendent of Public Instruction has presented to the country a valuable and very suggestive account of the recent abortive "text-book conspiracy" of that state in the current issue of the *Wisconsin Journal of Education*. As elucidating and explaining the tactics and inspiration of a very numerous class of "statesmen" of this day and generation, it is commended as a very instructive piece of reading. While, perhaps, the mingling of educational men in the ordinary partisan political discussions of the day is to be deprecated, Wisconsin is to be congratulated that in an emergency so momentous as that of last winter her Superintendent did stand as "a dumb dog on the watch towers of Israel."

One of the conspiring Madison newspapers treats Superintendent Searing's article on the defunct plot quite cavalierly. The enterprising triumvirate of Madison editors who were so solicitous that the "people" should not be "robbed" (by legitimate booksellers) will all agree that the article in question is "in bad taste," that its list of "alleged facts" is not "entirely such," and that Edward Searing is "unfortunately Superintendent of Public Instruction." W.

READING IN GRADED SCHOOLS.

THE art of reading readily and intelligently the current literature of the day may be acquired by the average pupil before the age of ten years, and should be acquired by all before the age of twelve. Any result short of this is a comparative failure. This art can be quickly acquired only by daily practice upon new matter. While it is necessary to spend a portion of the time allotted to reading in our schools in teaching the elocutionary part, this finishing process is unimportant, until the art of calling words at sight has been, in a great measure, mastered.

In music, many a fond mother rests satisfied if her darling Anna Maria can perform a few pieces of plain composition for the entertainment of those of equal acquirements; but in reading we cannot learn the newspaper of to-day to repeat to-morrow or next week, without running a risk of being considered "behind the times." We must be able to read understandingly, at sight, the new monthly, weekly, daily, and we might say hourly publications. As well learn swimming without water as depend upon any theory of learning to read without daily practice. This practice should commence at an early age, and continue until the eye takes in at a glance a line or a sentence before a word is spoken.

The great work of learning to read, or rather the great amount of time necessary to acquire this art, is not fully comprehended by many teachers. Consequently we find pupils ten and twelve years of age spelling out many of the words in an ordinary reading lesson.

One reason why this matter of learning to read in childhood is of such vast importance is, that those who cannot read well in early life rarely, if ever, learn the art. A poor reader at twenty-five years of age is a poor reader at fifty, although reading hours daily during the whole time. Elocution, when not a natural gift, may be acquired after the usual school years, but not the faculty of calling words at sight, at least as a general rule. This is as much a matter for childhood as learning to talk.

In our graded schools of large towns and cities, where there are several wards or school districts, let the reading books for the primary grades be owned by the boards of education; let each ward or school district have a different reading book, and as soon as one book is finished, let the classes change with others of the same grade. In this way a class has the advantage of a half dozen (more or less) reading books each term, and it will be found that a renewed interest will be manifested with the advent

of each new reader, and the progress will be proportioned to the amount of new reading matter furnished. Also additional reading matter like the *St. Nicholas*, or *Youth's Companion*, or better still, books prepared especially for the purpose of supplementing the regular readers, can be furnished by the boards at trifling expense, and changed from class to class. For every penny expended in this way pounds' value in time will be saved to the children, and an interest aroused and maintained that will not stop with reading, but extend to other branches.

Results are demanded corresponding in some degree with the enormous outlay for gratuitous education. Everything which promotes the efficiency of our schools, and every dollar expended in that direction, is a guarantee of the permanence not only of our free school system, but of our system of free government. W.

THE STUDY OF THE FRENCH LANGUAGE.

III.—THE VERBS.

Prof. Alfred Hennequin, University of Michigan.

In a former number of The Educational Weekly* I endeavored to point out one of the most neglected features in the "French Courses" published in this country. I now propose to show that, owing to a great lack of system, the most important portion of the French grammar has wrongly been called the most difficult. It is almost needless to say that I refer to the verbs of the language.

If we consult the "Dictionnaire de l'Academie," we find that the French language contains *4,000 simple verbs*, i. e., verbs formed without the help of certain Latin and French prefixes. For instance, the verb *faire*, to do, is a simple verb; but those belonging to the same class, i. e., *contrefaire*, *défaire*, *méfaire*, *refaire*, *satisfaire*, *surfaire*, are compounded verbs.

In the same manner as certain verbs are formed from substantives in Latin (*querelare* from *querela*), the French language forms new verbs from French substantives, adjectives, or verbs already existing. Example: *chemin*, path; *cheminer*, to advance; *gros*, large; *grossir*, to become large; *chanter*, to sing; *chantonner*, to hum.

If we now add to the above 4,000 verbs, those that can be formed from nouns, adjectives, and verbs, and those formed by the help of Latin and French prefixes, we find that the language may be said to have over 10,000 verbs, which can be classified as follows; 6,000 compounded verbs on the one hand, belonging mostly to the first and second conjugations; and 3,600 simple verbs belonging to the first conjugation; 358 belonging to the second conjugation; 10 belonging to the third conjugation; 50 belonging to the fourth conjugation. Thus making on the other hand the 4,000 simple verbs.

Two verbs of the language are called *auxiliaries*, and are used to form some of the tenses of all the others. The remainder are called *regular*, *irregular*, and *defective* verbs. The auxiliaries, though irregular, should be considered as forming a separate class, and should be treated differently from the other irregular verbs.

The study of the verbs should be undertaken as soon as the pronunciation has been mastered. The student should first learn the *Present Indicative*, the *Imperative*, and the *Present Subjunctive* of both *avoir* and *être*. This portion of the grammar should be recited in connection with the "Lesson" at the beginning of the "Course." As soon as the above *five* tenses of *avoir* and *être* are known, the remainder of the above verbs should be acquired for the following lesson. The student, however, should not be expected to commit to memory the twenty-four tenses needed to complete the two auxiliary verbs. His attention should be drawn to the points common to both of them, and the teacher should rather expect the *termination-analysis* of these twenty-four tenses than their oral conjugation. The following table will explain what I mean by "termination-analysis":

Avoir, to have; *être*, to be.
Tenses to learn: Present Indicative; Imperfect; Present Subjunctive.
Analysis of the Remainder of both Verbs:

Imp. Ind.	ais		
	ais		
Avoir. Av	ait	These *endings* are common to *every verb* of the	
	ions	language for the *imperfect indicative* and *conditional*	
Etre. Et	iez		
	aient	*present.*	

Past definite.

Avoir. Eu	s*		
	s	These *endings* are common to *every verb* of the	
	t		
	mes		
Etre. Fu	tes	language for the *past definite.*	
	rent		

Future.

Avoir. Au	rai		
	ras	These *endings* are common to *every verb* of the	
	ra		
	rons		
Etre. Se	rez	language for the *future present.*	
	ront		

Conditional.

Avoir. Au	rais		
	rais	These *endings* are common to *every verb* of the	
	rait		
	rions	language for the *conditional present.* (See the	
Etre. Se	riez		
	raient	*imperfect.*)	

Imp. Subj.

Avoir. Eu	sse		
	sses	These *endings* are common to *every verb* of the	
	t		
	ssions		
Etre. Fu	ssiez	language for the *imperfect subjunctive.*	
	ssent		

The compound tenses are learned by means of the above simple tenses. Both verbs having been thus studied, the teacher should require the student to conjugate them the next day, according to the usual order of the moods and tenses. These verbs are always given in full in "French Courses." The student, having been told how verbs are used interrogatively, negatively, and negatively and interrogatively, the teacher should require the conjugation, oral and written, of *avoir* and *être*, in their different forms, until he is satisfied that the class knows them well.

If we now pass on to the *regular* verbs of the language, we find that they can all be acquired by means of their *terminations* and a certain *formation of tenses.* The task of mechanically memorizing a verb of each of the four conjugations is very tedious, and, in my opinion, of no use. Let the student learn the terminations of the *simple tenses* of each conjugation, and then form his own verbs. This can better be illustrated than explained. The following table is a short specimen of what I mean, illustrating the learning of the present indicative of the four regular conjugations:

Pronouns.	*Root.*	*1st conj.*	*Root.*	*2d conj.*	*Root.*	*3d conj.*	*Root.*	*4th conj.*
je	*chant*	*e*	*Pun*	*is*	*con*	*ois*	*vend*	*s*
tu		*es*		*is*		*ois*		*s*
il		*e*		*it*		*oit*		*s*
nous		*ons*		*isions*		*evons*		*ons*
vous		*ez*		*issez*		*evez*		*ez*
ils		*ent*		*issent*		*oivent*		*ent*

The teacher should give certain *roots* each day, and require the student to conjugate and write certain tenses of the regular verbs. By this method, the memorizing of the regular verbs becomes easy, and it has one great advantage over the learning of four verbs, namely, that of enabling the student to conjugate any given tense of any given verb without being obliged to think of some other verb.

The next thing to learn is the *formation of tenses.* As it would take too long to explain the process by which *five given words* form all the remainder of a verb, I will merely say that the "formation of tenses" is to be found in every French Course. The student's attention should be drawn to it, and, after having learned it, he should be required to apply it to a certain number of regular verbs. If ten minutes each day is given to the verbs in connection with the usual "lesson" in the grammar, the student will know all the regular verbs of the language, and (the teacher giving him *five words*) *one hundred and seventy-four out of the three hundred irregular verbs of the language*, by the time he has reached the 25th lesson in the grammar.

The *so-called irregular* verbs of the language can be divided into two important classes: the *irregular-regular* verbs and the *irregular* verbs. The irregular-regular are those that have some of their *primitive tenses* irregular, but form all their *derived tenses* regularly. To explain this in full, it is necessary to again refer the reader to the formation of tenses in his grammar. As an illustration of what precedes, I will therefore merely show how *lire*, to read, is not an irregular verb, though so called in every French grammar. The primitive tenses are: Infinitive, *lire;* present participle, *lisant*; past participle, *lu*; present indicative, 1st person, *je lis*; past definite, 1st person,

*Number 11, March 15th.

*Verbs of the 1st conjugation take *ai* for the 1st person.

je lus. This verb being of the 4th conjugation, assumes different terminations for the five tenses above (less the infinitive) from a regular verb of the same conjugation; hence, this verb is usually called irregular. The derived tenses however, are formed regularly, and the formation of tenses having been learned, the student can conjugate the above verb which we call an irregular-regular verb. The future of the conditional will be formed regularly from the infinitive; the imperfect indicative, the present subjunctive and the plural of the present indicative will be formed regularly from the present participle; all the compound tenses will be formed regularly from the past participle; the imperative will be formed regularly from the present indicative; the imperfect subjunctive will be formed regularly from the past definite. To explain how the above derived tenses are formed would require a complete formation of tenses to be given in this paper. Let it be sufficient to say that, owing to said formation of tenses, which applies to all the regular verbs, the 164 *irregular-regular* verbs can be likewise conjugated, with no further knowledge than five words for each of the *29 classes* into which these 164 verbs are divided. The primitive tenses of the 29 model verbs (5 words each) are sufficiently alike to be memorized in *less than two hours;* thus learning, in such way as never to be forgotten, 164 *irregular* verbs of the language. I have omitted to say that the formation of tenses does not require much study to be thoroughly mastered, and that it is so easy and simple that a child can understand and apply it.

The French language does, however, contain a certain number of verbs, having irregular primitive and derived tenses. These alone should be called the *irregular verbs*. There are 84 such verbs, which can be divided into 20 classes—one of the verbs for each of the 20 classes being known, all the irregular verbs can be conjugated and written with no difficulty whatever. Of these 20 model verbs, 14 can be learned almost as easily as the irregular-regular verbs, by means of the primitive tenses and three additional rules. We will take, for instance, to give and illustrate the first rule, the verb *courir*, to run. The primitive tenses of this verb are *courir, courant, couru, je cours, je courus*. All the derived tenses are regularly formed, from their primitive tenses, excepting the future and the conditional. These tenses, being formed from the infinitive present, should be *je courirai—ais*. The rule applying to this kind of irregularity is the following: Irregular verbs having *rir* for infinitive-ending, always have the future and conditional irregularly formed. The *i* of the infinitive is dropped, and the *endings* common to all the verbs of the language for the future and conditional are then added to the verb itself; *e.g., je courrai, je courrais*. It might be well to add here, that, if the future is irregular, the conditional is likewise irregular. As the remainder of the verb partakes of the nature of the irregular-regular verbs, this verb can be conjugated in full with no further knowledge. Eight other verbs, belonging to the same class are therefore also known. If we now take the verb *mourir*, to die, we find that the future and conditional are, of course, irregular,—the infinitive ending in *rir;* these tenses can, however, be conjugated, if the rule applied to *courir* is known. The verb *mourir* is also irregular in the 3d person plural of the present indicative and in the present subjunctive. We find that this 3d person plural is *ils meurent*, instead of *ils mourent*. This 3d person plural must be learned, making in all *six* words to know the whole verb, seeing that the present subjunctive, also irregular, assumes the same form as the irregular 3d person plural of the present indicative—i. e., *que je meure* instead of *que je moure*—the 1st and 2d persons plural of an irregular present-subjunctive being regular. If we now take the verb *boire*, to drink, we find that the 3d person plural only of the present indicative is irregular, *i. e., ils boivent*, instead of *ils buvent* (p.p. *buvant*); the present subjunctive will therefore be *que je boive*, etc. (1st and 2d persons plural regular).

From all that precedes we may say that 14 out of the 20 model irregular verbs follow the rules given and explained for *courir, mourir* and *boire*. These 14 classes comprise *63 irregular* verbs out of the 84 that *we* have called irregular. There remain, therefore, 16 verbs, reduced to 7 classes or models, to be learned in order to know *all the verbs* of the language, excepting a few defective verbs, most of which are no longer in use. The 7 classes remaining can also be obtained, partly through the formation of tenses, and seldom more than *two* additional irregular tenses to be learned. It would take too long to explain how many of these verbs are as simple as the irregular-regular verbs. We might add many more observations on this subject; but we fear that, by trying to show how very simple the French irregular verbs are, and how one can learn them with but very little mental effort, the explanation would embarrass the student instead of helping him. We take, however, the liberty to state that the whole subject of the French verbs has been treated by us in a small work,* intended to be used with all grammars, from the very first "lesson" of the "course." We trust that this too lengthy paper has given a general insight into the method we propose, both for the classification and the learning of what is so commonly called the most difficult portion of the French grammar.

*"A New Treatise on the French Verbs." Ivison, Blakeman Taylor & Co., New York.

CUBE ROOT.

A STRICTLY ARITHMETICAL METHOD.

Prof. S. S. Rockwood, State Normal School, Whitewater, Wisconsin.

TO master the rule for the extraction of cube root as a mere process of operation, is not at all difficult compared with its mastery as a process of thought.

The first may be achieved by quite immature pupils, but the latter should never be attempted until the student has attained a respectable degree of discipline.

I am persuaded that the usual demonstrations by means of diagrams or blocks are the result of attempting to simplify the matter so as to bring it within the reach of too immature minds, and the appeal to the forms of a binomial cube, on the other hand, is as ill-advised as it is unnecessary.

Fundamentally I conceive the whole matter as a pure abstraction and think it ought to be discussed from that view-point. When one raises a number to the third power by actual multiplication, he has no *necessary* thought of the second power being a square or of the final result being a cube in a geometrical sense; those ideas are after-thoughts, mere applications or illustrations when the unit of the given number is linear, which is not a necessary circumstance at all. So I maintain that the study of the theory of extracting the cube root (or any other) ought to wholly avoid the limitation implied in the diagram or block method.

Let us then make a study of the problem: To extract the cube root of a given number.

I assume the given number to be simple and abstract, and that the number sought is one of its three identical factors. Since I seek factors I must proceed by division, and so my process is the reverse of the one by which the number was produced. One cannot reverse a process whose steps he has not observed, and therefore I must commence by a preliminary study of involution.

Take the number 56 and find its third power in the following manner:

56 56	Here is a perfectly legitimate form of multiplication and carries in its face the necessary information concerning the power.
$36....u^2$	If we were to add ciphers one after another to the 56, the only effect upon the power would be the addition of three ciphers to it for every one added to 56, and from this fact we can see the relation between the number of places in the root and power. Now if we point off the power in the usual way, it will be obvious that the cube of the highest figure of the root is wholly contained in the left-hand period of the power, also the cube of the highest two figures in the first two left-hand periods and so on to the lowest. We are now ready to commence this *peculiar* division to separate the power into the three required factors. By inspection we obtain the greatest cube in the left-hand period and the square of its cube root is really our first divisor and the left-hand period is the dividend; thus: 25)175616.(5
30 30 ..$2ut$	
$25 .....t^2$	
56	
$216....u^2$	
180 180 180 ..$3u^2t$	
150 150 150 ...$3ut^2$	
$125 .....t^3$	
175616	

125

50616

Now it is necessary to observe that the 5 in the quotient is tens when referred to both periods, that is, when referred to the undivided part of the dividend, and that the process is one by which we create our divisor piecemeal, as we use our dividend up in the same way. In this particular example the remainder, 50,616, is very largely (about nine-tenths) made up of 3 times the square of the 5 tens into the units, and this fact furnishes us our clue to the new divisor. It is obvious that if we divide the number which is thus constituted by the product of two of the factors, we have reason to expect to find the third factor (making the necessary allowance for the overplus) which is the (tentation) second figure of the root. Perhaps the most absolutely simple process now would be to square the root found, and divide both periods by the result as we did when we found by inspection the first figure of the root, and divided the first period. By doing so we could always obtain for a divisor the greatest square in the periods considered, and of course the quotient would be the root we desire, but the inspection of the formation of the power will enable us to devise a correction for the trial divisor, which

added to it will give us a divisor which only lacks the *final figure* as a factor to equal the unsubtracted part of the cube contained in the first two periods (the whole dividend in this case). Every remainder with the next period is a new dividend to which the quotient already found bears a constant relation. This is the core of the whole matter, and all beyond it in the rules is *machinery* to save *hand labor* when the given power is very large. After this, what question is not easily answered by an appeal to the law of the notation? For instance—"Why commence at the decimal point, and point off in three-figure periods in both directions when the (hypothetical) power contains decimals?"

Because the root precedes the power, and to suppose *one* decimal place in the root would be to grant *three* in the power, and so the number of decimal places in the power *must* be divisible by three, and when it is not it *must* be made so by annexing ciphers, and so beginning at the decimal point is only a convenient way of ascertaining how many ciphers must be added to make the necessary number of places in the full form of the power, and if that matter were adjusted beforehand, the rule for pointing off would be to begin on the right in both decimals and whole numbers.

It is advantageous to observe that each subtraction after the first takes from the dividend the remaining part of the cube of the root already found, and that the root found is always so many tens of the order of the next figure sought. A valuable exercise is to extract the root of some mixed decimal, and preserve the decimal point in every part of the work so that the pupil can see how the whole operation conforms to the laws governing the fundamental combinations of numbers.

This method of discussion applied to the extraction of square root works equally well, and the details will suggest themselves to any one who has followed me thus far. I have only attempted to give the outlines of what I have found a very simple and satisfactory method of dealing with what is usually a very difficult subject. Any one who does not see the available points in it would hardly be converted by the formal statement of all the details in a model discussion for class use.

THE ACQUISITION OF FOREIGN LANGUAGES.

O. S. Westcott, Chicago High School.

It is a matter of some satisfaction to the author of some short articles under the above caption to find that they have induced at least one to take up the cudgel in opposition. Your correspondent in Number 17 of the Weekly takes some positions with reference to which it is hoped that a word or two will not be taken amiss. He claims that it is *unnatural* to exclude the vernacular from the class-room, in the process of acquiring a new language. While his statement of the case is exceedingly plausible, if it is found that by the exclusion of the vernacular three or four times the progress is made that can be made by its assistance, will it not be apparent that he has mistaken the *unusual* for the *unnatural?*

He admits that by the colloquial method more confidence may be acquired, but assumes that correctness cannot thus be obtained. Now, his first admission is the strong point of the new method. It is also in evidence, and substantiated by the most abundant and undoubted proofs, that both the confidence and the correctness may be acquired by the new method in the same time as by the old method; the partial correctness may have been acquired with no confidence, and consequently with no further practical advantage than what accrues from a passable reading knowledge of the language studied. He prefers correctness to confidence. I prefer confidence with correctness. To acquire confidence with correctness, the confidence must *first* be acquired. This is surely so in all instruction. Too often does the teacher fail in obtaining results precisely because he is too rigidly exact in the matter of form, creating thereby dislike for the underlying and more important thought without which the word is lifeless, useless. Hence, our too numerous mechanical and thoughtless experts in scholarship. The new method does not by any means look to the continued exclusion of grammatical information, but only requires that it shall be left until the pupil is so far advanced as to be able to appreciate the syntactical and etymological peculiarities of the language.

Would Mr. Lodeman, *e. g.*, incessantly ring the changes on the German article until the forms and proper use of the same were both perfectly familiar to the pupil before tolerating his attempts to employ them in sentences? If so, he would *ipso facto* condemn the language of many reputed German scholars, both native and foreign. Well educated Germans themselves admit their frequent conversational obliquities in so elementary a grammatical matter as the proper form of the article in various circumstances. Indeed, who of us invariably uses correct English, whether it be in off-hand conversation or in our more studied efforts? Shall we then cease to talk and write because we are aware of not attaining perfect accuracy?

But, further. The writer suggests whether talking a language is the main object in its acquisition. With the ancient languages doubtless a reading familiarity is all that is desirable. But with the living languages of the moderns, the case seem to present itself thus: Shall we, on the one hand, study the grammar and the dictionary, and with the assistance of the vernacular obtain a passably good knowledge of the new language in four years' study, or shall we, on the other hand, learn to speak the new language with such fluency as to transact business by its use, and have at the same time an excellent reading knowledge of the language by having put the same number of hours per week upon the matter for *two* years? I say an *excellent* reading knowledge, for the reason that by the new plan double and triple the amount of reading material may be gone over in one half the time.

The author says that Mr. Heness is "*honest enough to say*," etc. Now I trust that this was not intended, even in the most remote way, to hint at any dishonesty on the part of the subscriber. I plead guilty only to the charge of *enthusiasm* in the matter. As the question of honesty seemed to be with reference to the actual amount of time employed, I will say that I have seen a class in eleven weeks, having but *two* hours a week, so advanced in German by the new method as to be far ahead of classes having *five* hours a week for twice the time, the former under the direction of an American, himself but an indifferent scholar in German, the latter under the direction of a native German, himself a good English scholar.

Mr. Lodeman says that in ignoring the fact that nearly all those who study a foreign language have already studied English grammar, one fails to recognize the important educational principle of applying the known in teaching the unknown. Must, then, the whole circle of known science be employed in the acquisition of any particular fact? In teaching elementary botany must one use the fundamental axioms of geometry or any smattering of Sanskrit that he may chance to possess? I do not believe that a knowledge of English grammar is an assistance, but, on the contrary, rather a detriment to the beginner in the pursuit of a modern language. Indeed, the great advantage of excluding the vernacular from the class-room consists in the fact that the student is accustomed soon to think in the new language. While he is pondering over the comparative grammars and the varied idioms, translating from the old language to the new, he is creeping when he might walk, run, fly. Though his gait may be staggering, his flight unsteady, his progress is surely more rapid and the style of progress will improve by practice, and by practice alone. Speech is habit, grammar an art. After the habit is acquired, then let the art be called upon to make the habit a graceful one.

In a case where a teacher punished a boy for throwing stones at a teamster, while on his way home from school, the Supreme Court of Maine have decided that either a teacher or a parent may correct a child for misconduct on the way between home and school. In school the teacher's authority is absolute; at home, the parent's; to and from school the jurisdiction is concurrent. Both teacher and parent must keep punishment within humane limits as to severity.

A Wisconsin teacher uses a conversational method in teaching. The subject matter of each study and lesson is made clear to the pupil by a full and familiar conversation upon it, so that before he goes to the printed page he has a perfect understanding of what he is expected to find there. The thing or idea is given before the words. The technical and critical language of the book is then memorized and serves to fix what is already in the mind.

In the comparison of notes by popular educators gathered in attendance at the great Exhibition, it was found that in foreign countries written exercises are demanded of pupils much more generally than among us. The value to a pupil of subjecting his knowledge to writing is becoming evident.

We must not forget that the schools are the people's, not ours, and that the ultimate directive force lies in and with the people, so that do we wish for reform or change, the expressed opinion of the community should precede action. Aaron Gove.

If a pupil leaves school with a love for study, and a hearty appetite for reading, it matters little whether his school-work has been Latin, or Analytical Chemistry. C. A. Morey.

Time is infinitely long, and each day is a vessel into which a great deal may be poured, if one will actually fill it up. Goethe.

Musical Department.

Editor, W. L. SMITH, East Saginaw, Michigan.

[Musical exchanges, books for notice, correspondence, queries, etc. touching upon musical topics, should be sent to the editor of this department.]

SHOULD GIRLS SING ALTO?

TO THE MUSICAL EDITOR:

I WRITE to ask a question. After I have separated my classes for part-singing, and assigned some of the girls, as the compass of their voices seems to demand, to the alto, or second soprano, I am occasionally informed by some mother that Miss ——, a piano teacher, (who, probably, has never taken a lesson in *vocal culture* in her life), has told her that "her child must not sing alto in school, because it will ruin her voice, and that she can never sing soprano, if it is continued. Please give me your opinion.

Yours, etc., F.

REPLY.

No child,—girl or boy,—should be permitted to sing outside the range of voice that is perfectly easy and *natural* to it. If God intended that a voice should sing soprano, that should it sing; or, if the alto register is the easiest one to the singer, then, by no means, let any pretender undertake to *force* the voice upward, in order that the popular piano songs of the day may be performed. In speaking of the female voice, before and during mutation, Julius Eichberg says: "One of the most fruitful causes of injury proceeds from the desire of many female pupils always to sing the highest part,—the soprano. It is with them "*aut Cæsar, aut nullus.*" When teachers are better acquainted with the physiology of the voice, they will understand the necessity of not sacrificing young voices to the desire of exhibiting and showing off their pupils." We have already called attention to the very important matter of having each and every pupil become accustomed to sing alone, in the same manner as they are required to recite other lessons. In addition to bringing out the individuality of the pupil, this course becomes an invaluable aid to the teacher in arranging classes for part-singing, for the natural compass of each child's voice will gradually be discovered, and when parts are assigned, no one, by accident or through ignorance, will be required to sing that which is not within the easy compass of the voice. Among pupils of the average age of nine or ten years, where two-part singing should be first introduced, the exercises and songs should be so arranged as to have both parts within the range of all the voices, and all pupils should be taught, and become accustomed, to read and sing either part with equal ease.

—Our thanks are due Ginn & Heath, 46 Madison Street, Chicago, for a set of the "National Music Readers," consisting of four books for pupils' use, and a manual for the guidance of teachers. This is a carefully graded course, prepared by the music teachers in the Boston, Mass., public schools. From an intimate acquaintance with these books, we are prepared to recommend them to teachers in graded schools as such as will *wear*, because the music has that intrinsic worth which causes it to grow brighter and better as long as it is needed to be used. The adoption in schools of such text-books as these will obviate the necessity of soon changing; as is too often the case where music books are used that are filled with jingling, trashy songs, which, although sometimes attractive at first, become nearly worn out in the learning.

—The following beautiful illustration is by Dr. C. H. Payne, President of the Ohio Wesleyan University: "If we take a few grains of sand and put them on a glass plate, and bring music in close contact with the glass, the sand grains will arrange themselves in beautiful order; so, through the marvelous power of music are the elements of coufusion and chaos on the earth to be brought into harmony, beauty, heaven."

A LITTLE LESSON IN MUSIC.

EXPRESSION is everything, always, and in the fundamental teaching of music attention enough is not paid to this fact. So much earnestness and enthusiasm are expended in getting the "*do, re, mi*" part of it right that comparatively little instruction finds its way into the *manner* of rendering it.

And then, again, the *time* always suffers from youth up, as applied to soft or loud passages. It is universally the fact that the child, and grown person as well, retards unconsciously in singing passages which grow soft or low. I wonder if one reason may not be this defect in early training, for true it is that *everything* depends upon what kind of a foundation it has, from the building of a palace down (?) to the teaching of a little child! Should any one demur at the above style of putting things, let him remember that, in too many instances, this is but the way of the world.

One may be forgiven any legitimate expedient which tends to improve any method; so, having found in an obscure corner a little sequence of notes suited to my purpose, I commenced practicing on it with my pupils. It runs thus:

"*Cherries ripe! cherries ripe! Who will buy my cherries ripe!*"

Here is my first day's plan:

"Children, I have found a very nice song for you to-day. Did you ever hear the cherry-man sing any such song in the summer?" And then I give it to them.

O, yes, indeed! they all had, something like it.

"Do you like cherries, and do you like to hear the man?"

Yes, yes, all mouths are watering, if they are as fond of the bright, *cheery* globes as I am!

"Now we'll try to sing this exactly as the man does. Do you think he is sleepy?" No, indeed; and if our ideal man is as wide-awake as they are now, at this point, he will sell all his luscious load in a trice.

"Listen! Here is the man right in our room! How does he sing his cherries?"

And in a ringing, off-hand manner, they meet my requirements.

"But suppose the man is out in the hall, and the door is shut; how does he sing now?"

They see the drift, and give me the words of the pretty refrain with lighter voice.

"He has gone out to the gate; *now*, how does he sing?" And softer still they give me the chords.

When "across the way," the melody is still more subdued,—and now, I send him "down the street," till, naturally, his voice is scarcely heard, and the little willing lips, more rosy than even the cherries, bear so lightly upon the harmony, that I am quite satisfied they appreciate my full meaning and intention.

Here comes my point.

Insensibly the *time* has been suffered to lag as the tones became more and more subdued; and I ask them if they suppose the man speaks slower and slower, as he goes further and further off?

Why, no, they hadn't thought of that, and now they come to think of it, *of course* he doesn't, if he wants to sell his cherries!

So then I bring him, in their imaginations, back again; nearer and nearer, from point to point on the way, familiar to them,—insisting upon a firmer rendering, as he is supposed to be nearing our presence; till mentally, he stands before us—then the voices fairly ring out.

Thus I place him at different points of distance—near and far—and claim from them the same *time* in giving the different degrees of loudness.

Our "cherry-man" is a daily visitor, and I have never found so valuable an assistant in this particular line of instruction.

He can travel, too, and carry hints as messages into many another duty. It is quite as necessary, for example, for the child to meet the demands upon him as vigorously when out from our immediate supervision, as when under our eye; so the principle is applied to *steps* as well as notes, and so on, *ad infinitum!*

MARY P. COLBURN.

Practical Hints and Exercises.

Editor, Mrs. KATE B. FORD, Kalamazoo, Mich.

ESSAY WRITING.

AT the present time, children are taught to write at an early age. They put into script the printed words of their spelling-lesson, and are often set to copying paragraphs from their readers. In this way they learn the use of capital letters. They find out, too, that marks of punctuation belong as well to the written as the printed page. They come to know how matter is divided into paragraphs, before they are required to arrange a subject for themselves.

But independent thought, and the best expression of it, are too frequently left for the higher grade schools, when the pupil is set to doing what he is supposed to understand. It takes them a very short time for the teacher and pupil to learn that the a b c of composition must be mastered at this late day or nothing satisfactory will be accomplished.

Let the little people copy stanzas of poetry and paragraphs of prose. Let them write the answers to questions in geography, when they are unanswered

in the book. Encourage them in writing occasional letters, and help in selecting what they shall say. Sometimes a teacher sends to the parents notes of invitation to visit the school. At such times there would be excellent opportunities for the pupils to serve as scribes while the teacher dictates. With all these plans, however, we know of nothing so important as conversations, *familiar talks* on various subjects as they come up in the class—with the entire school—anywhere. *We can talk when we are full of a subject. We can write when we have much to say.*

Perhaps the school-yard has just been smoothed and sown with grass-seed, and all the pupils think of the matter is that for a time they are prohibited from going "across lots," are not allowed to step from the walks,—in short, have their liberty taken from them in the most unrelentless manner. They forget, till reminded of it, that the price of a beautiful green lawn by and by is care to-day. And now is the time of all times when they will listen to anything pleasant that can be said on so unpleasant a subject. They do not know how many countries have no green carpets of sodded grass. They have never thought what an endless variety of grasses there are. Be sure they watch its coming up and know that, after a time, it has *flowers* and *fruit*. And the lesson may be expanded ten-fold, and afterward written. The children must first be interested, then led to talk intelligently and easily, and afterward taught how to put in order what they know, and prepare it so as to make others enjoy the subject as much as they do themselves.

SUGGESTIONS TO APPLICANTS FOR SCHOOLS.

Supt. AARON GOVE, Denver, Colorado.

AS the school year nears its close, teachers, students, and would-be teachers are forced to make the annual effort for positions. Much correspondence is commenced, and nearly every board of education will receive letters from applicants. Every superintendent knows that too many of these missives bear upon their faces evidences that the writer thereof is not desirable material, while others, it is hoped the major part, are model letters, and deserve and receive prompt and respectful replies.

It is useless to mourn over the condition of things that has brought about the necessity of writing applications. Our profession is forced to do it; and that spirit of enterprise and *push* that urges a man or woman to write and try to obtain a school is ever to be commended. It has occurred to the writer that, because of a little experience in receiving, reading, and answering such epistles, he might make a few helpful suggestions.

First, let me say what not to do: Do not print a circular stating your qualifications, antecedents, hopes, etc., etc. A printed advertisement sent to a board of education deserves no reply. Some may wonder at the idea of such a note, but it is common. One mail brought me two, one from Maine, the other from Illinois.

Do not speak of presents given you by patrons or pupils.

Do not write on fancy paper and enclose in a fancy envelope.

Do not stick the postage stamp, which you always enclose for reply, fast to the paper.

Do not write so that several pages will be required for an answer.

Do not write a familiar letter as to an acquaintance, but let it be a business letter, and be sure that you understand the form, folding, etc., of a business letter.

One should not feel aggrieved if the answer is short. It should be remembered that some superintendents' offices would require a special clerk during the spring months, were each letter of application answered at length.

Sign your name in full, or else be justly punished by having the answer addressed to Mr. or Mrs., when you are Miss.

Consider, before you write, what you want to know, what you are likely to learn, and then put that, and that only, in the fewest possible words. Remember that boards are not likely to engage a teacher without first looking upon the form thereof. Teachers are not engaged by correspondence. Would a merchant hire a bookkeeper, a stranger, without first seeing him, however great his reported qualifications? It is not business to engage an employe by letter, when the person is a stranger. The first letter, then, can be but an introduction. Circumstances may preclude the writing of a second, if not, the second may be more full.

The series of questions asked by applicants are much the same in all letters, although couched in a variety of forms. One fills a sheet with them, while another uses a few lines. No family surroundings, poverty, health, widowhood, or misfortune, has to do with the introductory letter, and none of these accidents is likely to show one to be a better teacher. Public schools are in no sense charitable institutions, and justice requires that sympathy have no voice in appointments.

I submit the following as covering all necessary:

I am a teacher of six years' experience in —— schools. Please send me any information that will be helpful in enabling me to learn of your schools, and to apply for a position therein. I shall be pleased to correspond with you, should the circumstances seem to justify. Please refer to ——.

Respectfully, ————.

The answer will bring to you all the printed matter of the board pertaining to the schools, the statement as to vacancies, the salary—in short, all that is necessary to give you the information that will determine your future action. And whether or not you succeed, you have the satisfaction of making a pleasant impression upon the reader, that may be of service in the future.

EXAMINATION QUESTIONS.

A READING-CLASS in Princeton High School, Illinois, has used Longfellow's poems for seven months, reading on alternate days. In connection with the reading, grammatical and rhetorical questions are studied, and all historical, biographical and mythological allusions are discussed. The following questions were given for a final examination, based mostly upon "The Belfry of Bruges," and "Tales of a Wayside Inn:"

1. Sketch of Longfellow's life and principal works.
2. Where is Bruges? Nuremburg?
3. Explain:
   "Saw great *Artevelde* victorious scale the *Golden Dragon's nest*." (Define or explain particularly all italicized words).
4. Meaning of *argosies, tocsin, lagoon.*
5. Who was the "*Gentle Mary* hunting with her hawk and h ound?'
6. "*Aztec* priests upon their *trocallis*." Define.
7. Define *pyx, skerries.*
8. "As great *Pythagoras* of yore
   Standing beside the blacksmith's door,
   And hearing the hammers as they smote, etc."
   Explain the above.
9. Who was *Silenus?*
10. "Above them all, and strangest of all,
    Towered the *Great Harry*."
11. "Washes the feet of the swarthy *Lascar*."
12. Explain:
    "Like the *great giant Christopher* it stands."
13. "A new *Prometheus* chained upon the rock."
14. Explain:
    "I remember the sea-fight far away,
    How it thundered over the tide,
    And the dead captains as they lay."
15. "Well versed was he in Hebrew books,
    Talmud and *Targum*, and the lore
    Of *Kabala*."
16. He did not "rustling hear in every breeze
    The laurels of Miltiades."
    Explain.
17. Who was the *musician* in the "Tales of a Wayside Inn"? Where was his violin made, and who made it?"
18. What is the *Decameron?*
19. What is the *Heimskringla?*
20. "Did'st thou ever read
    Reynard the Fox?"
    Explain.
21. Explain:
    "Stands *Grotto's tower*,
    But *wanting still the glory of the spire*."

Will any one explain for me the passage in Wordsworth's "Intimations of Immortality," when he says:

"But there's a tree, *of many one*,
A single field that I have looked upon,
Both of them speak of something that is gone."

Why does a tree, or a single field, speak to him more than any other? Does *of many one* mean one of many? H. L. B.

A little girl at school was once reading, in the presence of a visitor, a passage in which the word *dice* occurred, and was asked what it meant. To the surprise of the questioner, she replied, "Little cubs at play;" and on inquiry it was found that she had been crammed with columns of meanings, as they are called, and among them this, "*Dice*, little cubes used in gaming."

Notes.

LITERARY.—*The American* is the name of a new sixteen-page weekly, published by the American News Company, New York, at four dollars a year. It contains a large amount of miscellaneous reading, and is tolerably well illustrated. It is printed on heavy, tinted paper, and evinces good management. Its editor is John C. Freund.——E. Steiger, of New York, has become a very prominent publisher of kindergarten literature, and is fast becoming prominent as a publisher of general educational works, and an enthusiastic promoter of every interest which serves in any way to promote the cause of education. In addition to the numerous "Kindergarten Tracts," which are becoming indispensable to primary teachers, he has now entered upon the publication of a series of "Papers on Education," which comprise the best papers, addresses, etc., which are printed in educational and other periodicals, books, reports, etc., and which do not generally find their way to the common reader on account of the difficulty of obtaining the volume which contains them. As an evidence of the liberality and enterprising spirit of Mr. Steiger, we may mention the fact that these papers are furnished at the bare cost of production and postage. Every teacher should send for them. The prices vary according to the number of pages, from one cent to six cents a copy for single numbers. The "Papers" contain from four to fifty-two pages, those containing twelve or more pages being bound in a neat cover, and all well printed. In order to secure them regularly, send fifty cents to E. Steiger, 22 Frankfort street, New York. This will secure pamphlets aggregating not less than 600 pages. We believe that we are serving the cause of education in urging teachers to secure these "Papers."——Macmillan & Company announce a new book by Prof. Todhunter—a work on natural philosophy for beginners. It is a promising sign for the school interests when the most eminent scholars consent to prepare text-books for the elementary schools. Macmillan & Co. are English publishers, and have just opened their new store at 22 Bond street, New York. Standard English works can always be obtained through them without delay.——The third number of the *International Review* for 1877 contains, as its leading article, a discriminating and impartial review of the new Federal Administration, and a brief exposition of the principles of the new President. Charlton T. Lewis presents a sketch of the present status of the Life-Insurance Question from the stand-point of the insurance companies. A very interesting paper is given by Dr. James H. Rigg on the "Disestablishment of the Church of England," which will be found especially valuable to American readers, as the position of the English Church is so little understood in this country. Francis A. Walker contributes the first paper on the Philadelphia Exhibition, treating particularly of its mechanism and administration. One of the most attractive literary articles in the magazines this month is Bayard Taylor's discussion of the intellectual biography of Tennyson in this number of the *Review*. The discussion deals particularly with the characteristics of Tennyson's poetical growth and development, and evinces throughout, in its author, the scholar and the poet. "The American Foreign Service" is discussed by Hon. John Jay, in a popular and interesting vein which makes the article readable for all. It strongly commends the policy of President Hayes' Administration. Philip Gilbert Hamerton writes another "Art Letter," and the number is closed by some notices of recent American and European works. The *International Review* is a publication in which the educated American should feel a special pride.——The May number of *Scribner's Monthly* greets us with the usual quantity of good things. "Beds and Tables etc." is continued, and gives useful hints to the ingenious even if the purse is not long enough to follow very minutely its suggestions. "That Lass o' Lowrie's" is completed, and has fulfilled all that the earlier chapters promised. Mrs. Francis H. Bennett has proved that she can wield the novelist's pen with great power, and we shall expect yet other good things from her. "Nicholas Minturn" is also continued. We confess a leaning towards most of Dr. Holland's stories. The shorter articles are interesting, especially "Smith College" and "Sea Front Fishing." The illustrations are very fine.

The Art of Projecting. A manual of experimentation in Physics, Chemistry, and Natural History, with the Porte Lumière and Magic Lantern. By Prof. A. E. Dolbear, Tuft's College. Illustrated. (Boston: Lee & Shepard, pp. 158, 8vo., $1.50, 1877. For sale by Hadley Brothers & Co., Chicago.)—Those who are interested in the teaching of physics, and who desire to avail themselves of more complete apparatus for means of experimentation, will find Prof Dolbear's manual of great service, as it is possible to perform a large number of experiments in nearly every department of physics by the aid of the porte lumière and the magic lantern. The work does not attempt to discuss phenomena, or explain them, but is very full in its description of apparatus and direction for its use. Seven pages are given to "Projections for the School-room," seven to "Artificial Lights," five to "Lanterns," five to "Lenses," twenty to "Projections," fourteen to "Physical Experiments" twenty-three to "Acoustics," sixty-three to "Light," six to "Heat," three to "Magnetism," four to "Electricity," and three to "Chemistry."

A Dictionary of the English Language. By Noah Webster, LL. D. (Springfield, Mass.: G. & C. Merriam).—This work, so well known and highly appreciated wherever the English language is spoken, scarcely needs more than an announcement by its title to command the attention of every person desiring a "well of English pure and undefiled." A book whose sale has gone far up among the hundred thousands; a book which has been before the world for more than a generation; which is without a peer in all the essentials of a complete repository of a living language, requires no commendation at our hands. No household can dispense with it. No library, either private or public, is well furnished without it. No school, of whatever grade, can lay claim to being properly equipped where the "Unabridged" is wanting. With a good cyclopedia, a good atlas, and a copy of Webster's Dictionary, no private library can be said to be poor, while a public collection may be deemed to have made a good beginning. We say what the whole world has been saying for years: Get the best. Get Webster.

Wood's Illustrated Plant Record and Guide to Analysis. Adapted to any American botany. (New York and Chicago: A. S. Barnes & Company.)—Among the real improvements embodied in modern methods of teaching, the plan of requiring systematized *written statements, syllabi, and tabular views*, holds a prominent place. The best test of a student's knowledge is his ability to express what he knows or claims to know. The only way to impart order and system to mental labor is to furnish the mind with occasions for systematic exercise. To give expression to a truth is the best method of fixing that truth in the memory of the pupil. In accordance with these principles this plant record has been produced to aid pupils in the acquisition of the beautiful science of botany, and in securing that peculiar form of mental discipline which botany is so well adapted to give. Its utility no true educator can question. The work before us is a true labor-saver and a systematizer, so to speak. The synopsis of botanical terms has been greatly extended in this work over any other we have seen. It is in fact a *classified glossary*. Full explanations of the terms are given, and the directions for use are ample. Five different forms of tablets are presented for the analysis of plants. We commend the book to the attention of teachers and botanical students everywhere.

PAMPHLETS RECEIVED.

CATALOGUE *of Ripon College, 1876–77.* Edward H. Merrell, A. M., President.

First Annual Report of the Secretary of the State Board of Health of the State of Colorado, for the fiscal year ending September 30, 1876.

Seventh Annual Report of the Board of Education, together with the Thirty-second Annual Report of the Commissioner of Public Schools, of Rhode Island, January, 1877.

Annual Report of the Superintendent of Public Instruction of the State of Wisconsin, for the school year ending August 31, 1876. Edward Searing, Superintendent.

The Polytechnic School of Washington University. Extracts from the Catalogue for 1876–77. Worthy the notice of educators.

Course of Study of the Aurora Public School. With Manual of Illustration. W. B. Powell, Superintendent. This is a volume of 303 pages, giving a very full exposition of the course of study pursued in the public schools of Aurora, Ill. It is a great aid to teachers, but the query arises, how can such expense be afforded in these times? It would serve as an excellent aid to any teacher, in guiding his class instruction.

Annual Report of the Board of Education of the City of Auburn, N. Y., for the year ending July 31, 1876. B. B. Snow, Superintendent.

Report of the School Committee of the Town of Quincy, Mass., for the year 1876–7. Francis W. Parker, Superintendent.

The Sixteenth Annual Report of the Superintendent of Public Instruction of the State of Kansas for the year 1876. Hon. John Fraser, Superintendent.

The Swedish Catalogue of the International Exhibition of 1876, by Dr. Elis Sidenbladh, Secretary of the Royal Swedish Statistical Central Bureau. The Swedish catalogue, including the statistics of agriculture, commerce, manufactures, education, etc., by the same.

Special Report of the Michigan Educational Exhibit to the State Centennial Board, by Dr. D. C. Jacokes.

A Chart and Key of the Educational System of the State of Michigan. Compiled by Dr. D. C. Jacokes.

Report of the State Normal School Board of Minnesota, including the reports of the principals. C. A. Morey, Winona.

Correspondence.

THAT OLD PUZZLE AGAIN.

To the Editor of the Weekly:

In the Weekly of March 29th we find the old puzze, $x^2+y=11$; $y^2+x=7$. We offer the following solution, thinking that it will be more readily comprehended by the majority of teachers than the one presented by "O.":

$\left\{\begin{matrix} x^2+y=11 \\ y^2+x=7 \end{matrix}\right\}$ $\left\{\begin{matrix} x^2-9=2-y \\ y^2-4=3-x \end{matrix}\right\}$ $\left\{\begin{matrix} y=2-(x+3)(x-3) \\ y^2=4+(3-x), \text{ or, } y=\sqrt{4-(x-3)} \end{matrix}\right\}$

Then $2-(x+3)(x-3)=\sqrt{4-(x-3)}$. Squaring both members of the equation gives $4-4(x+3)(x-3)+(x+3)^2(x-3)^2=4-(x-3)$. Transposing to the first member, we have $(x-3)-4(x+3)(x-3)+(x+3)^2(x-3)^2=0$. By factoring we obtain $(x-3)[1-4(x+3)+(x+3)^2(x-3)]=0$. Performing the operations indicated and uniting, we have $(x-3)(x^3+3x^2-13x-38)=0$. Dividing by $(x^3+3x^2-13x-38)$, we have $(x-3)=0$; hence $x=3$; $y=2$.

W. W. De Armond.

Milan, Illinois.

To the Editor of the Weekly:

Seeing in your issue of March 29th under the caption "Another Old Puzzle" the statement that the equations $x^2+y=11$, and $x+y^2=7$ would admit of nothing but a biquadratic solution, I beg leave to send you the following, which I think is purely quadratic, and which at the same time presents a new form of artifice that may many times be used in the solution of intricate quadratics:

(1.) $x^2+y=11 \therefore x^2-9=2-y$. (2.) $x+y^2=7 \therefore x-3=4-y^2$.

Factor (2) and reduce, and (3), $\frac{x-3}{2+y}=2-y$. Now, by axiom, the first members of (1) and (3) are equal. $\therefore$ (4), $x^2-9=\frac{x-3}{2+y}$. Separating second member, and transposing, $x^2-\frac{x}{2+y}=9-\frac{3}{2+y}$. Complete square, $x^2-\frac{x}{2+y}+\frac{1}{4(2+y)^2}=9-\frac{3}{2+y}+\frac{1}{4(2+y)^2}$, whence $x-\frac{1}{2(2+y)}=3-\frac{1}{2(2+y)}$, and $x=3$. Y is now easily found.

J. Reynolds,
Supt. Schools.

Warrensburg, Mo., April 10, 1877.

THE ADORNMENT OF COUNTRY SCHOOLROOMS.

To the Editor of the Weekly:

Reading the article, "The Adornment of Country Schoolrooms," in the Weekly, led to the wish to write of one, as it was last summer.

The teacher procured slips of house plants of some friends; the fragrant ones among them were the rose geranium, heliotrope, and bergamot. Being placed in dishes which would not break even if roughly handled, they made a pleasant collection for the schoolroom. These interested the children, and in a short time after the commencement of the summer term two round beds or mounds were made in front of the door, at a suitable distance from the steps. The "chunks" which were lying around and were too large to burn, were placed in piles, one on each side of the schoolroom. Around these and under the windows, morning-glory seeds were sown.

The work was mostly done by the scholars at their noon-spells and recesses, and they worked with a will. This started them in work of the same kind at home. But somehow the seeds started the soonest and the flowers grew the best at the schoolhouse. All had worked, and many had furnished seeds, so now all felt an ownership in the flowers, and the parents were pleased with them. Slips of the houseplants were given to the scholars as fast as they could be spared, and those who had different varieties at home brought slips to the teacher. The leaves of the rose geranium and bergamot were free to all to press, if they would leave the freshest ones; and one enjoyed seeing the little fellows slyly pinching them to smell the fragrance.

So the summer schoolroom was very pleasant with its newly papered walls, the seats clean as they could be scoured, the morning-glory at the windows, and the hanging-basket with its drooping vines in the sunniest window, with the other plants near it. Out of doors the portulaca, cypress vine, zinnias, balsams, petunias, and others, were blossoming.

Contrary to all the expectations of others, the children never troubled the flowers. A rule that whoever should do so would lose a recess was all that was necessary. Gathering the flower-seeds as they ripened was a pleasant pastime, and at the close of school the seeds and the flowers that remained were divided among the children. So the experiment of having flowers was tried, and all were pleased with its success.

H.

Who can tell the names of the states that require twenty-two days for a school month?

C.

FOR PRIVATE SCHOOLS.

A letter from an interested subscriber in Alabama contains some suggestions to those who are engaged in the management of girls' schools, or ladies seminaries. His points are as follows:

1. The circulars should be brief and explicit; the advantages of the institution should be presented without exaggeration, in order to avoid the suspicion of humbuggery.

2. Disciplinary regulations should be few; a long list of regulations is apt to bring a short list of pupils.

3. The promise of a home or family life should be strictly observed in all points,—such as good, substantial, and wholesome food; as much kindness and liberty as the proper management of the school would allow, which is in perfect harmony with good behavior, good manners, and ladylike deportment. It should be borne in mind that the girls make the school, and the school should be, as much as possible for the girls, without unnecessary restraint.

4. A *long* list of studies should be prepared which *may* be studied, but a *short* list of those which *must* be studied, and these necessary studies should be selected with reference to their usefulness after school-days are past. Short lessons should be the rule—not long ones, and the principal, or other examiner, should come into the class-room unexpectedly and examine the pupils, but regular and severe examinations should be avoided, as they tend to make the girls nervous, sick, and tired of school.

5. Physical exercise should be regularly taken, either out-doors or in. A simple gymnasium should be constructed under a large enclosed shed, so as to be comfortable in any kind of weather, and every pupil should be induced in some way to visit this place of exercise every day. "*Mens sana in corpore sano*" is a motto that ought to be before the eyes of every person directing education.

WILL COMPULSORY EDUCATION PAY?

To the Editor of the Weekly:

While our school law is "going through the sweat," to use an agricultural phrase, any thing having a bearing on the question of compulsory education may not be amiss. From a report of an English board of education I extract the following, which appears to be a fair test, as it relates only to adults of a marriageable age:

In 1873 the number of bridegrooms in England who could not write even their names in the marriage registers amounted to eighteen per cent. The number of women entering wedlock, but who had to affix X to the register, was as high as twenty-five per cent. In 1874, the abstracts of which have just been published, the percentage had decreased to seventeen and twenty-four respectively. *London, strictly controlled by the Central School Board, had only eight per cent. of men, and thirteen per cent. of women* who could not sign the marriage register; while Bedfordshire had twenty-seven per cent. of men, and twenty-three per cent. of women laboring under this disability, and North Wales as many as twenty-six per cent. of males and thirty-four per cent. of females. Will our legislators take the hint?

John Riley.

Spring Hill, Ill.

To the Editor of the Weekly:

Some time since we were very pleasantly surprised to receive by express from the publishers, Merriam Brothers, three superb copies of Webster's Unabridged Dictionary. Accompanying this most acceptable present was a note explaining that, at the solicitation of President Phelps, of the Whitewater Normal School, the dictionaries were donated by the publishers to Le Moyne school, with the hope that they might prove acceptable and helpful both to the instructors and students of the institution.

In behalf of the entire school and of its friends, I wish, through the columns of your journal, to acknowledge the receipt of so valuable a gift, and to thank the Messrs. Merriam and President Phelps for their kind remembrance.

This is not the first time we have been placed under obligation, either to the publishers of the Unabridged, or to the Whitewater Normal School.

As far as we are able, we would reward these good friends. Yet we can only pledge our gratitude and well wishes. They have the blessing and prayers of many, who have enjoyed, but for a few years, the right of looking into a dictionary, or even a spelling book, and who, therefore, now so much the more, want and prize the privilege.

A. J. Steele, Principal.

Le Moyne Normal School, Memphis, Tenn., April 16, 1877.

To the Editor of the Weekly:

Will you be so kind as to procure, through your journal, a demonstration of the following propositions: 1. All circumferences having their centres in the same line, and having but one common point, are tangent to each other and have a common rectilinear tangent at the common point. 2. The area of a sector is to the area of the circle, as the arc of the sector to the circumference. 3. Is a diameter of a circle a chord?

Yours respectfully,

M.

Kewaunee, Wis., April 16, 1877.

To the Editor of the Weekly:

The Weekly is appreciated here, and, we think, improving. Now I would like if any teacher or the editors can give me a plan to make the study of of Goodrich's History interesting to a class of only two or three. I do not succeed as I do in other studies. The book is too hard. Am pleased with the examination questions, so are my pupils.

Respectfully,

E. S. L.

Walnut, Ill., April 10, 1877.

The Educational Weekly.

STATE DEPARTMENTS.

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Colorado: Hon. J. C. Shattuck, State Supt. Public Instruction, Denver.
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Nebraska: Prof. C. B. Palmer, State University, Lincoln.

Educational News—Home and Foreign: Henry A. Ford, Kalamazoo, Michigan.

CHICAGO, MAY 10, 1877.

Kentucky.

TEACHERS, and especially principals of schools and superintendents, should be very careful not to give recommendations of anything that is not really valuable. They are apt to mislead other parties who do not know how much was paid for the recommendation. It would be well just above the signature to say: "I am to get complimentary tickets for myself and company," or "I am to receive a copy of the above mentioned book for my signature."——"The intellect is perfected not by knowledge, but by activity." —*Aristotle.* It might also be added that it is not the amount studied in school, but the method of studying that is beneficial.——State Superintendent Trousdale has the numerous photographs of Tennessee educational institutions which were on exhibition at Philadelphia hung up in his office.——A resolution was passed by the Legislature of Tennessee authorizing the back school tax, not hitherto apportioned, to be distributed among the counties of the state. The appropriations for current expenses for the next two years were cut down about $75,000——Tennessee has for a long time been struggling against adverse circumstances to keep up a system of public schools, and a little light is beginning to dawn upon her efforts. In McMinn county, the county court, at its last quarterly term, did itself credit in assessing a tax of ten cents for school purposes, which will produce about $2,500 additional fund, making in all $9,000 for that county. This is progress in the right direction. Let other counties do likewise, and ere long the proceeds of the investment will be manifest. It is more profitable to invest $100 in the education of a child than to buy him a paid-up policy in an insurance company.

Wisconsin.

SUPERINTENDENT SEARING'S REPORT FOR 1876.

IT has been our privilege to read the annual educational reports of the superintendents of Wisconsin for the last ten years, and, so far as we can judge, the report of Mr. Searing, just issued, is not behind its fellows in the points made, or in their judicious presentation. Mr. Searing, in the main, is sound in his high school policy, is correct in his position on the text-book question, and in regard to a general state tax for school purposes. The latter question needs to be more generally and more thoroughly discussed, and to be brought to the attention of the people at large. One great difficulty with our school system is its lack of thorough organization and centralization. Our efforts are not sufficiently concentrated, and hence the general progress, notwithstanding the encouraging condition of things in certain localities, is not what might be desired. A general school tax and a thorough township organization as advocated by Mr. Searing, would have a tendency to more uniform and more efficient action. It is quite plain, too, to any one who gives the subject candid consideration, that the central department of our educational work is by no means clothed with sufficient power to make its influence upon the school system as potential as it should be, an evil existing in other states as well as our own. Its powers are to a great extent simply advisory and clerical, whereas they should be executive. A board of education with a secretary, with power to enforce general rules and regulations, would be far more efficient than the present arrangement. Our country schools are no better organized, aside from the county superintendency, than they were fifty years ago, while the supervision is but little better. The same old district system, with all its looseness, still prevails, and hence the country schools do not keep pace in methods of work with the increasing demands of the times. The points made by Mr. Searing demand the most careful consideration of all educatienal men, and of all who are interested in the progress and usefulness of our school system. A very noticeable feature of the documents accompanying the report proper is the comprehensiveness of the reports of the county superintendents. They are more elaborate, better digested, more complete, and more comprehsive during the last year or two, and especially in this last report, it seems to us, than in former years. In point of literary merit, these reports have greatly improved in the last ten years. This is a matter of good omen. It shows that a better trained class of minds, with better views, are having the schools in charge. Any who read these reports may get a pretty clear view of the general condition of the schools in the state. It is to be regretted, however, that the reports from the cities, which are our educational centers, are so limited and so general in their scope. Their plans and methods, programmes of work, and economical administration, salaries, and other matters of interest, should be set forth. We should be glad to know what Milwaukee, Madison, Kenosha, Fond du Lac, Oshkosh, and other places are doing. On the whole, the reading of the report of the Superintendent of Public Instruction of Wisconsin for 1876 can but give us a good degree of encouragement.

The writing of an educational report, setting forth the condition of educational affairs in a state as large as the state of Wisconsin, is no easy matter. What to say and what to leave unsaid, what to make prominent and what to keep more in the background, requires nicety of judgment and wise discernment, and in this respect Prof. Searing and his indefatigable assistant, the Rev. J. B. Pradt, deserve great commendation. We command the careful perusal of this report to every man and woman in the state, and most especially do we commend its careful study to every teacher of the state, for no teacher can work wisely and intelligently unless he fully comprehends the general progress of education, so that he may thereby understand his own position in the profession.

B. M. Reynolds.

A correspondent of the Beaver Dam *Argus* pays the following compliment to Supt. Flavin, of Dodge county: "Under his intelligent supervision our schools have steadily advanced, and it would seem as though the time was not far distant when they will take a leading position, and suffer no disparagement by comparison with schools in any other portion of the state. Mr. Flavin, by his gentlemanly conduct, uniform kindness and courtesy to all; energy and zeal in the cause of education; has won for himself golden opinions, and is regarded by all who know him as a model superintendent; peculiarly the right man in the right place."——The Common Council of the city of Watertown has authorized the Board of Education to introduce the system of free text-books into the public schools of that city. The Board of Education has accordingly adopted rules and regulations for procuring and distributing the books.——We clip the following from the recent inaugural address of Mayor Norcross, of Janesville: "The city has reason to be proud of its schools. We have 3,709 resident school children, and, since the erection of the fine building in the fifth ward, we have accommodation for the 1,650 enrolled pupils. It seems, however, as if more than one-half of the school children should take advantage of our public means of education. We are really indebted to our school board and superintendent for an economical and successful management of this very important branch of municipal duty."—— The *Wisconsin Journal of Education*, referring to the public schools of Sparta, under the principalship of Prof. O. R. Smith, says: "In the excellence of its school system, skill and thoroughness of its teachers, and the satisfactory character of the work actually done, we believe no other city in Wisconsin to be its superior."——The eight weeks' institute of Supt. Richmond, of Green county, at Juda, is a pronounced success.——The Beloit *Free Press* says that the course of lectures on Genesis, given by Prof. T. C. Chamberlin, has been one of the most radically arousing and interesting events of the year.——At the state oratorical contest at Madison, April 25th, Beloit and Milton colleges, Lawrence and State Universities were represented. Mr. Curtis, of Lawrence University, received first honor, and Mr. Carr, of Beloit, second.——Supt Collier writes that he has been compelled to refuse certificates to four applicants this spring on account of their being only 15 years of age, and each had a school engaged. He suggests an amendment to the school law regulating the age of applicants for schools and certificates. What are the objections to such a law?——A county superintendent sends us for solution the following educational problems. Who will solve them? 1. How can interest be secured on the part of school officers and patrons? 2. How can a supply of text-books as well as uniformity in the same school be secured? 3. How can irregularity of attendance, which greatly increases the difficulty of classification in country schools be prevented? 4. How can the constantly increasing opinion that the teacher has no right to enforce obedience be changed? 5. How can a supply be obtained of suitable apparatus, even of the simplest kind, such as blackboards, charts, etc., as teachers' aids?

Indiana.

THE following letter from Edward Eggleston to W. P. Hendricks, of Madison, explains itself:

311 Adelphi Street, Brooklyn, April 6.

Dear Mr. Hendricks—I have been much interested in the reminiscence of Mr. Green's old school, lately published, and I should be very glad indeed to be among the boys at that time, though to tell the truth I was just a bit afraid of the master in those old days, and I fear I should tremble a little yet if he were to speak sharply to me. I cannot come—I am too much of a dray-horse, and June is the last of my year's work. The first of July I get a vacation, and I shall either get away to the cool hills of New England, or take a steamer for Europe. Think of a man overworked as I am broiling his head in the sun of Southern Indiana at the summer solstice! None the less I wish I could be there. What a rush of memory that published list of names brought up. The living and the dead! The Crawford boys, the Little boys,

Ben Jewell, Ed. Armoux, the Brights—it is but yesterday I saw them all at their desks when I went up to say the third conjugation to the master; only yesterday I sent my ball over into a flower garden on Broadway, and climbed over the fence after it; only yesterday the master rebuked Armoux for coming to school with musk scent in his hair-oil, and gave George Bright a scolding for bursting a torpedo under his desk; only yesterday one of the larger boys amazed us all by declaiming on a Friday the oration of one Marcus Tullius Cicero against a fellow named Catiline. This Catiline seemed to be a bad chap as nearly as I could understand the Latin in which it was spoken. When the declaimer got through giving old Catiline fits in Latin, there in that little old school-house, we all tittered. Latin was fine! And the stern master relaxed his face a little and said: "Well, you've astonished the natives, haven't you?"—Only yesterday? It is twenty-five years ago. The best friends I had in that school, some of them, dear fellows, are gone. When I go back to Madison, my old school fellows, most of them, have forgotten me. Nobody knows me but the old brick buildings, which never change. My children are about grown, my hair is graying. I couldn't pitch a ball worth a cent. I can't even run the third conjugation through without peeping into the book, and Mr. Green wouldn't allow that. But I wish I could see the old master and the remnant of the old boys together again. I think the low-browed red school-house would know me. I would like one game of good old-fashioned "town ball" with the boys. Greet them all for me. I wish I had time, but I am the public's humble servant now-a-days. I don't think my brother George can get away either. He is literary editor of the New York *Evening Post*. With love to the master and school fellows, and assurance of regard for yourself, Sincerely yours, EDWARD EGGLESTON.

The forthcoming catalogue of the State University gives the following facts: Number of students in attendance during the current year: College—Seniors, 18: juniors, 19; sophomores, 26; freshmen, 36; irregular, 38; total in college, 137. Preparatory Department—Seniors, 67; juniors, 82; total, 149. Law Department—Seniors, 21; juniors, 20; total, 41. Whole number; 327. Increase over number in same departments last year, 17. States represented in college and preparatory department, 12. Number of counties represented by Indiana students, 54.——E. H. Butler, for the past two years of Attica, has been elected superintendent of the Winchester schools.——Greencastle, the seat of Asbury University, is building a $25,000 school-house, to be completed by September next.——President Jones, of the state normal, writes: "Our term opened 28th ult., 240 names enrolled. Best class of students we ever had. Never opened with prospect of better results."

Iowa.

IOWA SCHOOL REPORT FOR MARCH, 1877.

PLACE.	No. days taught.	Whole Number Enrolled.	Av. Number Belonging.	Av. Daily Attendance.	No. days Absent.	No. of Tardinesses.	No. neither absent nor Tardy	Per Cent. of Punctuality.	Per Cent. of Attendance.	PRINCIPAL OR SUPT.
Davenport,	20	4139	3274	3083	3619	513		99.6	94	P. W. Sudlow.
Clinton,	20	1550	1446	1370	1509	78			94	H. Sabin.
Oskaloosa,	20	966	920	867	1029	497	321	97	93	H. H. Seerly.
Iowa City,		936	798	758	706	234	344	96	99.3	A. A. Guthrie.
Marshalltown,		848	773	727		79	310			C. P. Rogers.
Albia,	20	461	423	397	675	60	151	99.4	93.6	C. B. Jack.
Avoca,	20	208	179	158	420	208	35		89	W. M. Colby.
Walcott,	20	105	93	89	72	15	49	99.6	96	J. G. Haupt.

Illinois.

[The Illinois exchanges should be sent to the editor of this department.]

PROF. YOUMANS, in the May number of the *Popular Science Monthly*, attacks Pleasanton's blue-glass house with a sledge hammer. We are sorry; we are pained; we are disconsolate. Why couldn't the Professor have waited until the back counties were heard from before his pronuciamento consigned the azure pane to the realms of "ghastly rubbish"? When a discouraged school ma'am writes us for some new recipe to try on the "worst boy" before she consigns him to the tender mercies of the street, we shall be as speechless as the Sphinx. If the May P. S. M. hadn't blighted us we should have suggested blue glass; but now we can only express the hope that the *pain* Solomon considered so effective may not be entirely amiss.——The Mc Lean County Institute will be held in August, in Bloomington, and will continue three weeks. Dr. Marsh of Bloomington, Gastman of Decatur, Carter of Normal, and Jess of Leroy, will assist Superintendent Smith.——The Bloomington schools employ women only, and fifty-five of them. The principal of the high school receives $90 a month, and the ward-school principals $75. The average daily attendance last year was 2,261. The tuition *per capita* expense of high school, based on average attendance, was $18.14. The *per capita* expense of all pupils, including high school, and not including interest, was $16.08; while for tuition alone it was $12.13.——The last Knox County Institute was held at Yates City. W. L. Steele discussed "Frequency of Recitation"; Chas. L. Howard, "History"; Mr. French, "Base Lines and Meridians"; Miss Somers, "Dull Scholars"; and Mr. Bird, "School Government." Mr. Gowdy discussed the last paper at some length.——Brother Crary, of Whiteside, will hold his summer institute at Sterling. The lively Jonathan P. will be on hand the first week, and Miss Bush of Chicago will give instruction in drawing during the second week.——A bill has been ordered to a third reading in the state senate directing the conversion of the Illinois Museum of Natural History at Normal into a "State Laboratory of Natural History," an important part of whose functions is stated to be the supply to the state educational institutions of the biological material needed for their work, and the collection, determination, and preparation of a set of specimens illustrating the botany and zoölogy of the state, for exhibition in the State House at Springfield in connection with the display of the geological specimens obtained by the state survey. If this bill becomes a law, the museum at Normal will be reorganized with a view to making it a complete reference collection for the use of Illinois naturalists and other students of the natural history of the state, backed by a sufficient library and supplied with all the appliances for field and laboratory work and study.——We learn from *The Brimfield Gazette* that the schools of that place are flourishing finely under the charge of H. N. Halleck. The paper pays a glowing tribute to the work of Miss Lois Dyer and Miss Ella Hall, the principals of the primary and intermediate departments. Some twelve years since, the writer hereof made his maiden effort at teaching "the young idea" in this same Brimfield. It is some consolation to learn that the schools survived his wandering efforts. And now Brimfield has a railroad and is going to have a new school house. *Vive* Brimfield.——The Decatur schools employed, last year, about thirty teachers, had an average attendance of 1,364, and show the following significant statistics:

Cost per pupil on average number belonging, for tuition alone, including High School		$11 96
Cost per pupil on average daily attendance, for tuition alone, including High School		12 71
Cost per pupil on average number belonging, for all expenses except interest, including High School		15 33
Cost per pupil on average daily attendance for all expenses, except interest, including High School		16 30
Cost per pupil on average number belonging, for all expenses, including High School		17 75
Cost per pupil on average daily attendance, for all expenses, including High School		18 87
Decrease of debt during the year	$ 4,967 96	
Decrease of debt during the past two years	9,974 61	
Decrease of debt during the past three years	14,939 71	
Decrease of debt during the past four years	21,113 26	
Decrease of debt during the past five years	30,045 08	
Total bonded debt at present		30,000 00
Orders on treasurer outstanding and unpaid		75 79
Floating debt, - - NONE.		

The following characteristic article appears in a recent number of the Fort Smith (Ark.) *Herald*:—"*To the Citizens of Fort Smith*: We desire every parent of a pupil in the schools; every tax-payer and his wife; every friend to the schools (I believe the last named company includes every citizen in Fort Smith), to know that from this time to June 9th examination will be in progress 5½ hours every day except Saturday and Sunday. The teachers and the Board of Education most earnestly request that the citizens visit the schools often. You cannot see all in one day. There will be no grand farce, miscalled examination day, at the close of the schools. Come and see for yourselves just what the teachers and pupils are doing. We shall be glad to welcome you at any time. Drop in whenever you have a half hour or a half day at your disposal. Any member of the board, any teacher or myself will be glad to receive suggestions or criticisms upon the work done in the schools. Come soon, and if errors are pointed out, it is not too late to correct them. Your visits will encourage and stimulate both teachers and pupils. B. G. Roots, Supt." "Father" Roots is doing good work if the papers may be considered authority. He evidently has the hearty support of the people.——A county normal institute will be held at Griggsville this summer, under the direction of R. M. Hitch, of Griggsville, and Allen Mason, of Barry. Prof. Hull, of the Southern Normal, will assist them.——Superintendent Lamb, of Woodford county, proposes to hold another teachers' drill this summer. It will be at El Paso.——The following is received from Henderson county: We held our county teachers' institute at Olena last week, 19th and 20th. President E. C. Hewett, of the State Normal, was with us and fulfilled his part of the programme, which was listened to by a goodly number of teachers and many patrons. All were deeply interested and highly entertained with the President's instructions, and will doubtless carry impressions with them to their respective fields of labor which will greatly benefit our schools. We claim for our county an increasing interest in the public school, a healthy tone of public sentiment, yet far from the true standard. The programme was thoroughly worked by those to whom work was assigned, with one or two slight exceptions. A club of fifteen subscribers for THE EDUCATIONAL WEEKLY was obtained. Respectfully,

JAS. MCARTHUR, County Supt. Schools.

California.

THE INSTITUTES.—The Educational Diocese of California is unfortunately large in territory, considering the present population, the importance of school supervision, and of maintaining the rural schools in the utmost efficiency. The State Superintendent being in favor of gradually enlarging the scope of the teachers' institutes in each county, and employing all the available local talent together with experienced normal teachers, in maintaining an institute of from one to four weeks duration in every county having

the requisite number of schools, finds the year scarcely long enough for his migrations from San Diego in winter to the summer institute at Siskiyon. The time necessarily consumed in travel between these remote points is greater than is required on a journey from Maine to Florida. From the perpetual snows of Shasta to the perpetual summer of Southern California, all along the scattered line of country school-houses he finds the transplanted eastern teacher undergoing a process of adaptation to the educational wants of a mixed and mobile New America. The spring institutes are held with regard to the convenience of teachers' travel, and of the normal school professors and the State Superintendent or Deputy who invariably participate in them. President Allen, the much respected head of the California State Normal School, is ably seconded by Prof. H. B. Norton, a natural born teacher of teachers and loving student of nature. Their four months' vacation permits a liberal sprinkling of rambles with rod and gun from point to point where the institutes are held. Their road from Ukiah, Mendocino county, among the great Redwoods of the Coast Range, curves round among the wildest spurs of the Sierra Nevada nearly to the Oregon line; thence down through mining districts, the "big trees" of Calaveras, through twenty of our fifty-two counties. The teachers are faithful in attendance, though many of them ride to the institutes on horseback, a distance of fifty miles! Each county pays $100 towards the expenses (and as much more as they choose); the pay of teachers goes on during attendance. There *must* be an annual institute lasting from three to five days in every county containing twenty school districts, and there *may* be more than one, or one of longer duration when the demand is greater. The Santa Cruz and Napa county institutes have just closed, and have been conducted with unusual spirit. Twelve more, in the northern counties, will be held during the months of April and May, of which notes will be sent to the WEEKLY.

Michigan.

THE Board of Regents of the University held a special meeting May first. *Legislature and Laboratory trouble.* Prof. Langley has secured for the department of chemistry and physics one of the most powerful machines for producing the electric light that is to be found in the country. Two of the seniors appointed to take part in the literary exercises of commencement day, Miss Mary O. Marston and Mr. Geo. C. Comstock, have declined the honor. A committee of the senior class has issued letters to the clergy of the state, we are are told, asking their opinion about the propriety of the Regents granting the class the use of University Hall for a commencement "hop." They claim that they are unable to entertain their friends at commencement time unless they *dance* them.——The Legislature of this state does not seem to be very successful in its educational law-making. It has passed, or will likely pass, the appropriations for current expenses of the schools about as they have been asked by the several boards; but very little of general legislation upon educational matters is likely to be made. Prof. Tarbell's bill to provide for the better support of teachers' institutes, at this writing, seems most likely to pass without being so modified as to lose its identity. As reported by the Committee on Education, it provides that all officers who examine and license teachers shall collect a fee of one dollar of each male, and fifty cents of each female who is licensed. These fees go into the county treasury and constitute a county institute fund. The State Superintendent of Public Instruction is required to hold, by himself or by some one appointed by him, an institute each year in every county having one thousand children within the school ages. In smaller counties the holding of the institute is optional with the Superintendent, unless requested by fifteen teachers of the county; or if there are not fifteen teachers in a county, the institute may be called by a sufficient number of teachers of adjoining counties. All registered attendants upon the exercises of an institute must pay a fee of fifty cents, provided they have not within the year paid the examination fee before mentioned. In case this county fund is not sufficient to support the annual institute the Superintendent can draw from the state treasury sixty dollars for each institute provided he does not draw in any year for this purpose more than eighteen hundred dollars. The Superintendent is also authorized to hold, each year, one Central State Institute, at a cost to the State not exceeding four hundred dollars. If this bill becomes a law it will be of immense advantage to our schools. All attempts have failed to make any improvement or even change in our almost worthless system of township supervision. Both district and county systems of supervision have had able and earnest advocates in the Legislature, but their efforts have been in vain. Mr. S. Johnson, of Cass county, presented an excellent bill for a county system of supervision, but it was mercilessly slaughtered. The bill, prepared by the Superintendent in conjunction with a committee of the State Teachers' Association, and providing for a district plan, met with a similar fate.

Minnesota.

THE plans for a high school building in Minneapolis have been completed, and the contracts awarded. It is designed to have the structure enclosed, and the first floor ready for the reception of pupils by the first day of September. ——Superintendent Burt has issued a circular letter in reference to the new contract for furnishing text-books, in which letter the following statement is made: "The spirit and design of section 4 of the text-book law will be met, if clerks and county superintendents of schools make their requisitions for books wanted, when the commission shall have announced the authors and publishers of the books that the contractor is to furnish."——Superintendent Eorrie, of Stillwater, the President of the State Teachers' Association, must be anxious about this time in getting the pins set for the next meeting of this body. We venture the prediction that it will be found much easier to discover *holes* than to secure the *pins* which will fit them. The themes which demand discussion at this hour are numerous and pressing. The question is, who will give us something fresh—something suited to our needs? Let those who are called on to shoulder any responsibility connected with this forthcoming convention respond cheerfully, and let us be *determined* to have an educational revival.

Chicago Notes.

Prof. JAMES HANNAN, Chicago.

AT the last institute of the grammar grade teachers, Superintendent Pickard advised that, in view of present complications in Europe, and the probable frequent reference to the matter directly and otherwise in accounts from the seat of war, some conversational lessons should be given on the metric system. Mr. Pickard thought that attention should be called to at least three units of the system—the metre, the litre, and the gramme—that the derivation of each, so to speak, from the metre should be explained; that the four Greek prefixes—deka, hecto, kilo, and myria,—with their signification and peculiar use indicating multiples should be taught; that three Latin prefixes—deci, centi, and milli—with their peculiar use as sub-multiples, should also be similarly taught. If, in addition to this, the peculiarities of abbreviation, and a few of the equivalents of the metric terms in distance, weight, etc., were noticed, such terms occurring in accounts of battles and campaigns could be readily translated.——His friends will regret to learn that Mr. Merriman, principal of the Hayes School, and the senior principal of the city, has become seriously embarrassed, financially. His supposed success in worldly affairs has long caused him to be regarded, and furtively pointed out as a standing proof and a living monument of the falsity of the popular notion that it is imposible for a schoolmaster to be anything else than a poor man. His eligibly situated and handsome city property, and his interesting and valuable fruit farm in Michigan were such possessions as are never associated with the average schoolmaster, whether historical or actual. Mr. Merriman's embarrassment is the result of an attempt on his part to improve his property to an extent that his present income would not warrant, and may, to a considerable extent, be attributed to the severe and unexpected reduction of salaries to which all Chicago teachers have been subjected. Mr. Merriman is a victim to his excessive faith in Chicago. He is entitled to, and, with his excellent wife and family, will receive the sympathy which a veteran, faithful, and successful teacher deserves in a misfortune which is only pecuniary.——The Chicago Board of Education has fixed the price of school books for the ensuing year by the unanimous adoption of a resolution to the effect that only sixty-five per cent of last year's published retail prices shall be paid.

Publishers' Notes.

ALL letters relating to advertising or subscription should be addressed to S. R. Winchell & Co., 170 Clark Street, Chicago. Letters designed for the individual editors should be addressed to them as their names are published in the WEEKLY.